

CLAIMS

What is claimed is:

- 1 1. A network system, comprising:
2 a sending unit to transmit a first frame fragment, the first frame fragment
3 including a first data segment extracted from a low priority frame and a first
4 frame fragmentation control information appended to the end of the first data
5 segment; and
6 a receiving unit to receive the first frame fragment transmitted by the
7 sending unit.
- 1 2. The system of claim 1, wherein:
2 the sending unit to transmit a second frame fragment, the second frame
3 fragment including a high priority frame and a second frame fragmentation
4 control information appended to the end of the high priority frame; and
5 the receiving unit to receive the second frame fragment transmitted by the
6 sending unit.
- 1 3. The system of claim 1, wherein:
2 the sending unit to transmit a third frame fragment, the third frame
3 fragment including a second data segment extracted from the low priority frame
4 and a third frame fragmentation control information appended to the end of the
5 second data segment; and
6 the receiving unit to receive the third frame fragment transmitted by the
7 sending unit.
- 1 4. The system of claim 3, wherein each of the first frame
2 fragmentation control information, the second fragmentation control

3 information, and the third fragmentation control information includes a first
4 frame fragmentation indicator.

1 5. The system of claim 3, wherein each of the first frame
2 fragmentation control information, the second fragmentation control
3 information, and the third fragmentation control information includes a frame
4 fragment sequence number.

1 6. The system of claim 3, wherein each of the first frame
2 fragmentation control information, the second fragmentation control
3 information, and the third fragmentation control information includes a channel
4 number.

1 7. The system of claim 3, wherein each of the first frame
2 fragmentation control information, the second fragmentation control
3 information, and the third fragmentation control information includes a last
4 frame fragment indicator.

1 8. The system of claim 3, wherein each of the first frame fragmentation
2 control information, the second fragmentation control information, and the third
3 fragmentation control information includes an extension indicator.

1 9. A sending unit, comprising:
2 a frame fragment generator to generate frame fragments from frames,
3 each of the frame fragments including a payload data and a frame fragmentation
4 control information appended to the end of the payload data to enable the frame
5 fragments to be reassembled into frames; and
6 a data transmitter to transmit the frame fragments generated by the frame
7 fragment generator.

1 10. The sending unit of claim 9, wherein the payload data includes an
2 entire frame.

1 11. The sending unit of claim 9, wherein the payload data includes a
2 data segment extracted from a frame.

1 12. The sending unit of claim 9, wherein the frame fragmentation
2 control information includes a first frame fragment indicator to specify whether a
3 frame fragment is a first fragment generated from a frame.

1 13. The sending unit of claim 9, wherein the frame fragmentation
2 control information includes a frame fragment sequence number to specify a
3 sequential order number assigned to each frame fragment generated from a
4 frame.

1 14. The sending unit of claim 9, wherein the frame fragmentation
2 control information includes a channel number to indicate the logical
3 communication channel to which a frame fragment is designated.

1 15. The sending unit of claim 9, wherein the frame fragmentation
2 control information includes a last frame fragment indicator to specify whether a
3 frame is a last fragment generated from a frame.

1 16. The sending unit of claim 9, wherein the frame fragmentation
2 control information includes an extension indicator used to add fields to the
3 frame fragmentation control information.

1 16. A machine-readable medium comprising instructions which, when
2 executed by a machine, cause the machine to perform operations comprising:
3 a first code segment to generate frame fragments from frames, each of the
4 frame fragments including a payload data and a frame fragmentation control
5 information appended to the end of the payload data to enable the frame
6 fragments to be reassembled into frames; and
7 a second code segment to transmit the frame fragments generated by the
8 frame fragment generator.

1 17. The machine-readable medium of claim 16, wherein the frame
2 fragmentation control information includes:
3 a first frame fragment indicator to specify whether a frame fragment is a
4 first fragment generated from a frame; and
5 a last frame fragment indicator to specify whether the frame fragment is a
6 last fragment generated from the frame.

1 18. The machine-readable medium of claim 16, wherein the frame
2 fragmentation control information includes a frame fragment sequence number
3 to specify a sequential order number assigned to each frame fragment generated
4 from a frame.

1 19. The machine-readable medium of claim 16, wherein the frame
2 fragmentation control information includes a channel number to indicate the
3 logical communication channel to which a frame fragment is designated.

1 20. The machine-readable medium of claim 16, wherein the frame
2 fragmentation control information includes an extension indicator used to add
3 fields to the frame fragmentation control information.

1 21. A method, comprising:
2 transmitting a first frame fragment including a first data segment
3 extracted from a low priority frame and a first frame fragmentation control
4 information appended to the end of the first data segment;
5 transmitting a second frame fragment after transmitting the first frame
6 fragment, the second frame fragment including a high priority frame; and
7 transmitting a third frame fragment after transmitting the second frame
8 fragment, the third frame fragment including a second data segment extracted
9 from the low priority frame.

1 22. The method of claim 21, wherein transmitting the second frame
2 fragment includes appending a second frame fragmentation control information
3 to the end of the high priority frame.

1 23. The method of claim 22, wherein transmitting the third frame
2 fragment includes appending a third frame fragmentation control information to
3 the end of the second data segment extracted from the low priority frame.

1 24. The method of claim 23, further includes inserting a first frame
2 fragmentation indicator in each of the first fragmentation control information,
3 the second fragmentation control information, and the third fragmentation
4 control information.

1 25. The method of claim 23, further includes inserting a frame
2 fragment sequence number in each of the first fragmentation control information,
3 the second fragmentation control information, and the third fragmentation
4 control information.

1 26. The method of claim 23, further includes inserting a channel
2 number in each of the first fragmentation control information, the second
3 fragmentation control information, and the third fragmentation control
4 information.

1 27. The method of claim 23, further includes inserting a last frame
2 fragment indicator in each of the first fragmentation control information, the
3 second fragmentation control information, and the third fragmentation control
4 information.

1 28. The method of claim 23, further includes inserting an extension
2 indicator in each of the first fragmentation control information, the second
3 fragmentation control information, and the third fragmentation control
4 information.